

**REMARKS**

Applicant thanks the Examiner for carefully considering the present application. Please reconsider the present application in view of the above amendments and the following remarks.

**Disposition of Claims**

Claims 1-4 and 22-24 were pending in the present application. New claim 25 has been added. Thus, claims 1-4 and 22-25 are now pending in the present application. Claims 1 and 22-24 are independent. Claims 2-5 and 25 depend, either directly or indirectly, from claim 1.

**Amendments to the Claims**

Claim 24 has been amended by way of this reply. Claim 24 has been amended to clarify the limitations of claim 24, by amending "a calibrated segment of section" to recite "having a cross-sectional area." No new matter has been added by way of the amendments.

**Rejections Under 35 U.S.C. § 112**

Claims 1-4, 22, and 23 of the present application were rejected under U.S.C. § 112, first paragraph, as failing to comply with the written description requirement. The Examiner asserts that the limitation "a cross-sectional area smaller than the fuel flow section" is not recited in the specification and is new matter. This rejection is respectfully traversed.

The limitation which the Examiner rejected recites "the fuel delivery duct comprises a calibrated segment having a cross-sectional area smaller than the fuel flow section defined by the valve member when the valve member is in the open position."

Paragraph [0019] of the specification recites “The area of cylindrical fuel flow section can be equal to the product of the circumference of the opening 8 multiplied by the distance between the edge of the opening 8 and the valve number in the diaphragm 14. The circumference of the opening 8 and the distance between the edge of the opening 8 and the in the diaphragm 14 can be designed so that a cylindrical fuel flow section is greater than the section of the calibrated segment 10 so that the delivery rate is determined by the section of the calibrated segment 10 and not by the cylindrical fuel flow section.”

The above passage from the specification defines a cylindrical fuel flow section as an area calculated by multiplying the circumference of the opening by the distance between the edge of the opening and the valve number in the diaphragm. The above passage also explains that the cylindrical fuel flow section is greater than the section of the calibrated segment. One of ordinary skill in the art would recognize that “the section of the calibrated segment” is a cross-sectional area of the calibrated segment, because the fuel flow section defined by the valve member is an area, and, thus, “the section of the calibrated segment” must also be an area. That is, an area can only be quantitatively compared to another area. Further, paragraph [0017] of the specification recites that “[t]he calibrated segment 10 comprises a section which is designed to correspond to the delivery rate that is to be supplied by the injector.” The only area of the calibrated segment which affects the delivery rate (i.e. flow rate) is the cross-sectional area thereof. Thus, “the section of the calibrated segment,” would be understood by one of ordinary skill in the art to denote the cross-sectional area of the calibrated segment. As explained earlier, paragraph [0019] states that the cylindrical fuel flow section is greater than the section of the calibrated segment. By that same token, the section of

the calibrated segment, or the cross-sectional area of the calibrated segment, is smaller than the cylindrical fuel flow section.

In view of the above, the limitation "the fuel delivery duct comprises a calibrated segment having a cross-sectional area smaller than the fuel flow section defined by the valve member when the valve member is in the open position" is fully supported by the specification. Accordingly, withdrawal of the rejection is respectfully requested.

### **Rejections Under 35 U.S.C. § 102**

Claim 24 of the present application was rejected under U.S.C. § 102 (b) as being anticipated by PCT Application Publication No. WO 99/57465 ("Merminod"). Claim 24 has been amended by way of this reply. To the extent that the rejection may still apply to the amended claim, this rejection is respectfully traversed.

Amended claim 24 requires, in part, "the fuel delivery duct comprises a calibrated segment having a cross-sectional area smaller than the fuel flow section defined by the valve member when the valve member is in the open position."

Merminod discloses an electromagnetic valve for gaseous fluids having a simple wear resistant valve with a short response time. The electromagnetic valve of Merminod has a disc formed member 17 that rests against a valve seat 24 in a closed position, and that lifts away from the valve seat 17 when in open position. Merminod also discloses a passage 23 whose sectional area is precisely defined in order to get a sonic flow of the gaseous fluid through the passage 23.

The Examiner asserts that Fig. 1 of Merminod discloses the above limitations recited in amended independent claim 24. However, Fig. 1 of Merminod lacks clarity and the details of the

valve member are not precisely represented. The proportions of the cross-sectional areas of the segment and of the seat of the valve member cannot be deduced from Fig. 1. Furthermore, Fig. 1 shows the valve member in its closed position such that the stroke of the valve member cannot be inferred from Fig. 1. Thus, Fig. 1, and the remainder of Merminod, fails to show or suggest at least the above limitation required by amended independent claim 24.

In view of the above, claim 24 is patentable over Merminod, at least for the above reasons. Accordingly, withdrawal of the rejection is respectfully requested.

#### **New Claim**


New claim 25 has been added by way of this reply. Support for new claim 25 can be found, for example, in paragraph [0013] of the published application. No new matter is added by way of new claim 25. Claim 25 is dependent from claim 1, and is patentable for at least the same reasons as claim 1. Accordingly, favorable consideration of claim 25 is respectfully requested.

**Conclusion**

Applicant believes this reply is fully responsive to all outstanding issues and places the present application in condition for allowance. If this belief is incorrect, or other issues arise, the Examiner is encouraged to contact the undersigned or his associates at the telephone number listed below. Please apply any charges not covered, or any credits, to Deposit Account No. 50-0591, under Order No. 17286/002001 from which the undersigned is authorized to draw.

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Respectfully submitted,

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